

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: March 6, 2002, 13:34:59 ; Search time 25.15 Seconds
(without alignments)
1902.638 Million cell updates/sec

Title: US-09-405-504A-25

Perfect score: 3372

Sequence: 1 MRAPGAGAASVSLALLLWLL.....HYLPINEAVYTRICSGAFAL 646

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 522463 seqs, 74073290 residues

Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

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21: /SID88/gcgdata/geneseq/geneseq/AA2000.DAT.*
22: /SID88/gcgdata/geneseq/geneseq/AA2001.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Query Score | Match Length | ID | Description |
|------------|-------------|--------------|--------|-----------------------------|
| 1 | 3372 | 100.0 | 646 20 | AA14942 Amino acid sequenc |
| 2 | 3372 | 100.0 | 646 20 | AA14946 Amino acid sequenc |
| 3 | 3372 | 100.0 | 646 22 | AAB83232 Human FATP1 SEQ ID |
| 4 | 3372 | 100.0 | 646 22 | AAB83234 Human FATP1 SEQ ID |
| 5 | 3372 | 100.0 | 646 22 | AAB83239 Human FATP1 SEQ ID |
| 6 | 3372 | 100.0 | 646 22 | AAB83246 Human FATP1 SEQ ID |
| 7 | 3367 | 99.9 | 646 20 | AA140435 Human FATP protein |
| 8 | 3360 | 99.6 | 646 20 | AA140436 Human FATP1 protei |
| 9 | 3280 | 97.3 | 630 22 | AAB83244 Human FATP1 SEQ ID |
| 10 | 3062 | 90.8 | 646 20 | AA14952 Amino acid sequenc |
| 11 | 3057 | 90.7 | 646 22 | AAB83269 Murine FATP1 SEQ I |

| | | | | | | |
|----|--------|------|-----|----|----------|--------------------|
| 12 | 3054 | 90.6 | 646 | 22 | AAB83235 | Murine FATP1 SEQ I |
| 13 | 3026.5 | 89.8 | 647 | 20 | AA14955 | Amino acid sequenc |
| 14 | 3026.5 | 89.8 | 647 | 22 | AAB83255 | Murine FATP1 SEQ I |
| 15 | 2970 | 88.1 | 630 | 22 | AAB83252 | Rat FATP1 SEQ ID N |
| 16 | 2119 | 62.8 | 643 | 20 | AA14943 | Amino acid sequenc |
| 17 | 2119 | 62.8 | 643 | 20 | AA14949 | Amino acid sequenc |
| 18 | 2119 | 62.8 | 643 | 22 | AAB83233 | Human FATP4 SEQ ID |
| 19 | 2119 | 62.8 | 643 | 22 | AAB83242 | Human FATP4 SEQ ID |
| 20 | 2119 | 62.8 | 643 | 22 | AAB83249 | Human FATP4 SEQ ID |
| 21 | 2114.5 | 62.7 | 632 | 22 | AAB83236 | Human FATP4 SEQ ID |
| 22 | 2114.5 | 62.7 | 632 | 22 | AAB83240 | Human FATP4 SEQ ID |
| 23 | 2076 | 61.6 | 643 | 22 | AAB83243 | Murine FATP4 SEQ I |
| 24 | 2074.5 | 61.5 | 643 | 20 | AA14945 | Amino acid sequenc |
| 25 | 2074.5 | 61.5 | 643 | 20 | AA14958 | Amino acid sequenc |
| 26 | 2071.5 | 61.4 | 643 | 22 | AAB83258 | Murine FATP4 SEQ I |
| 27 | 2070.5 | 61.4 | 632 | 22 | AAB83257 | Murine FATP4 SEQ I |
| 28 | 2041.5 | 60.5 | 627 | 22 | AAB83245 | Murine FATP4 SEQ I |
| 29 | 1920.5 | 57.0 | 616 | 21 | AAB42756 | Human OREF ORF2520 |
| 30 | 1825.5 | 54.1 | 511 | 21 | AA171058 | Human membrane tra |
| 31 | 1814.5 | 53.8 | 511 | 21 | AA171058 | Human membrane tra |
| 32 | 1719.5 | 51.0 | 506 | 20 | AA14934 | Human protein sequ |
| 33 | 1719.5 | 51.0 | 506 | 22 | AAB83224 | Amino acid sequenc |
| 34 | 1719.5 | 51.0 | 506 | 22 | AAB83272 | Murine FATP4 SEQ I |
| 35 | 1547 | 45.9 | 405 | 20 | AA14954 | Amino acid sequenc |
| 36 | 1547 | 45.9 | 405 | 22 | AAB83254 | Rat FATP4 partial |
| 37 | 1437.5 | 42.6 | 340 | 22 | AAB83218 | Murine FATP1 signa |
| 38 | 1357 | 40.2 | 590 | 20 | AA14960 | Partial amino acid |
| 39 | 1357 | 40.2 | 590 | 22 | AAB83260 | Drosophila FATP pa |
| 40 | 1267.5 | 37.6 | 650 | 20 | AA14962 | Amino acid sequenc |
| 41 | 1267.5 | 37.6 | 650 | 22 | AAB83262 | C elegans FATPa SE |
| 42 | 1267.5 | 37.6 | 650 | 22 | AAB83274 | C elegans FATPa SE |
| 43 | 1257.5 | 37.3 | 655 | 22 | AAB83263 | C elegans FATPb SE |
| 44 | 1234 | 36.6 | 304 | 22 | AAB83277 | FATP signature seq |
| 45 | 1094.5 | 32.5 | 615 | 20 | AA14963 | Amino acid sequenc |

ALIGNMENTS

RESULT 1

AA14942

ID AAV14942 standard; Protein; 646 AA.

XX

AC AAV14942;

XX

DT 31-MAY-2000 (first entry)

XX

DE Amino acid sequence of human hFATP1.

XX

KW Fatty acid transport protein; FATP; long chain fatty acid; LCFA; fatty acid; FATP biosynthesis; obesity; diabetes; heart disease.

XX

OS Homo sapiens.

XX

PN WO9336537-A2.

XX

PD 22-JUL-1999.

XX

PF 14-JAN-1999; 99WO-US00182.

XX

PR 14-JAN-1999; 99US-0232201.

XX

PR 15-JAN-1998; 98US-0071374.

XX

PR 20-JUL-1998; 98US-0093491.

XX

PR 04-DEC-1998; 98US-0110941.

XX

PR 14-JAN-1999; 99US-0232195.

XX

PR 14-JAN-1999; 99US-0232197.

XX

PR 14-JAN-1999; 99US-0232200.

XX

PA (MILL-) MILLENNIUM PHARM INC.

XX

PA (WHEED) WHITEHEAD INST BIOMEDICAL RES.

XX

PI Gimeno RE, Hirsch DJ, Lodish HF, Stahl A, Tartaglia LA;

XX

DR WPI: 1999-444398/37.
DR N-PSDB: AA200352.
XX Fatty acid transport proteins and related polynucleotides, useful
PT for treating obesity, diabetes and heart disease
XX Examples; Fig 26; 255pp; English.
XX The invention provides a family of fatty acid transport proteins (FATPs)
CC that mediate transport of long chain fatty acids (LCFAs) across cell
CC membranes into cells. Human and murine FATP proteins and nucleic acids
CC encoding the proteins are provided. The FATP proteins can be produced
CC by standard recombinant methodology. Fatty acid uptake by cells can be
CC modulated by modulating biosynthesis of FATP proteins especially FATP6.
CC In particular, antisense oligonucleotides can be used to modulate FATP
CC biosynthesis. Modulation of FATP6 is useful for inhibiting fatty acid
CC uptake in cardiac muscle of humans. Agents can be directed to cardiac
CC muscle or liver by administration of a complex of the agent and a FATP6
CC binding moiety. DNA encoding FATP proteins can be used as a reference
CC used in detecting variant alleles or homologues. Altering the LCFA uptake
CC by administering an inhibitor or enhancer of FATP transport function in
CC the small intestine can decrease or increase calories available as fats,
CC and can decrease or increase circulating fatty acids. Blocking the
CC function of FATP4 and also FATP2, is useful for treating obesity,
CC diabetes and heart disease.
XX Sequence 646 AA;
SQ

Query Match 100.0%; Score 3372; DB 20; Length 646;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 646; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MRAPGAGAAVSVSLALLWGLPWTWSAAALGVYVSGGWRFLRIVCKTARRDLFGLSV 60
Db 1 mrapgagaasvslallwglpwtwsaaalgvvyvgsgwrflrivcktarldflgslv 60

Qy 61 LIRVLELRHORAGHTIPRTFOAVQORPERIALVDAGTGEWTFQAQLDAYSNVANLF 120
Db 61 lrvrlelrhoraghtiprtfoavqorperialvdagtgecwtfqaqldaysnavanlf 120

Qy 121 RQLGFAPGDVVAIFLEGRPEFVGLWGLKAGMEALNVLNRLREPLAFCLGTSGAKALI 180
Db 121 rqlgfapgdvvaiflegrepefvglwglakagmeaallnvlrnreplafclgtsgakali 180

Qy 181 FGGEMVAADVSGHLKSLIKFCSGDLGPEGILPDTHLDPLKEASTAPLAQIPSKGM 240
Db 181 fggemvaadvsghlkslikfcsdglpegilpdthldpllleastaplaqipsgkm 240

Qy 241 DDRLFYITSGTTGLPKAAIVVHSRYRMAAFGHAYRMOAADVLYDCLPLYHSAGNIIG 300
Db 241 ddrlyfytsgttglpkaaivvhsryrmaafghayrmqaadvlydclplyhsagnliig 300

Qy 301 VGQCLITGLTVLRRKFSASRFDWDCIKYNTCTVQYIGETICRYLLKOPVREAEHRHVR 360
Db 301 vgqclitgltvllrrkfsasrfdwddcikyntctvqyigeicryllkpvreaerrhrvr 360

Qy 361 AVGNGLRPAIWEETFRFGRVQRIGEFYVGAETECNCSIANMDGKVCSGFNSRILPHVPIR 420
Db 361 avgnlrlpaiweeterfgrvqrigeftyvgaetecncsianmdgkvcsgfnsrillphvpir 420

Qy 421 LVKVNEDTMELLRDAQGLICPCOAGEPGLLVQINQODPLRRFDGYVSESATSKKTAHSV 480
Db 421 lvkvnedtmellrdaqglcpcagepglvlvqinodplrrfdgyvsesatsskktahsv 480

Qy 481 FSKGDSAYLSGDVLMDELGYMYFRDRSGDTFRWRGENVSTTEVEGVLRLIGQTDVAVY 540
Db 481 fskgdsaylsgdvilmdelgymyfrdrsgdtfrwrgeenvsttevegvlrligqtdvavy 540

Qy 541 GVAVPVEGKAGMAAADPHSLDNPNAIYQELQKVLAPYARPIFLRLLPQVDTGTFKIQ 600
Db 541 gvavpvegkagmaaadphslldnpnaiyqelqkvlpapyarpiflrlpvdtdtgtfkik 600

Qy 601 KTRLQREGDFDRQTSRDLFFLDLKQGHYLPNEAVYTRICSGAFAL 646
Db 601 ktrlqregdfdrqtsrldlflldlkqghyplneavytricsgafal 646

RESULT 2

AA14946
ID AAY14946 standard; protein; 646 AA.

XX
AC AAY14946;

DF 26-OCT-1999 (first entry)

XX Amino acid sequence of human hsFATP1.

XX Fatty acid transport protein; FATP; long chain fatty acid; LCFA; human;
KW fatty acid; FATP biosynthesis; obesity; diabetes; heart disease.

XX Homo sapiens.

OS W09936537-A2.

XX 22-JUL-1999.

PF 14-JAN-1999; 99WO-US00182.

PR 14-JAN-1999; 99US-0232201.

PR 15-JAN-1998; 98US-0071374.

PR 20-JUL-1998; 98US-0093491.

PR 04-DEC-1998; 98US-0110941.

PR 14-JAN-1999; 99US-0232195.

PR 14-JAN-1999; 99US-0232197.

PR 14-JAN-1999; 99US-0232200.

XX (MILL-) MILLENNIUM PHARM INC.

PA (WHED) WHITEHEAD INST BIOMEDICAL RES.

XX Gimeno RE, Hirsch DJ, Lodish HF, Stahl A, Tartaglia LA;

DR WPI: 1999-444398/37.

DR N-PSDB: AA200356.

XX Fatty acid transport proteins and related polynucleotides, useful
PT for treating obesity, diabetes and heart disease

XX Claim 30; Fig 45; 255pp; English.

XX The invention provides a family of fatty acid transport proteins (FATPs)
CC that mediate transport of long chain fatty acids (LCFAs) across cell
CC membranes into cells. Human and murine FATP proteins and nucleic acids
CC encoding the proteins are provided. The FATP proteins can be produced
CC by standard recombinant methodology. Fatty acid uptake by cells can be
CC modulated by modulating biosynthesis of FATP proteins especially FATP6.
CC In particular, antisense oligonucleotides can be used to modulate FATP
CC biosynthesis. Modulation of FATP6 is useful for inhibiting fatty acid
CC uptake in cardiac muscle of humans. Agents can be directed to cardiac
CC muscle or liver by administration of a complex of the agent and a FATP6
CC binding moiety. DNA encoding FATP proteins can be used as a reference
CC used in detecting variant alleles or homologues. Altering the LCFA uptake
CC by administering an inhibitor or enhancer of FATP transport function in
CC the small intestine can decrease or increase calories available as fats,
CC and can decrease or increase circulating fatty acids. Blocking the
CC function of FATP4 and also FATP2, is useful for treating obesity,
CC diabetes and heart disease.

XX Sequence 646 AA;

Query Match

Best Local Similarity 100.0%; Score 3372; DB 20; Length 646;

Matches 646; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MRAPGAGAAVSVSLALLWGLPWTWSAAALGVYVSGGWRFLRIVCKTARRDLFGLSV 60

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|||||
Db 1 mrpagaasvvsallwlgpwtwsaaalgvygsgwfrlrvcktarldfqlsv 60
QY 61 LIRVLELRHQRAGHTIPRIFQAVQRPRLALVDAGTCEWTFQAQLDAYSNANLNF 120
Db 61 LIRVLELRHQRAGHTIPRIFQAVQRPRLALVDAGTCEWTFQAQLDAYSNANLNF 120
QY 121 RQLGFAPGDVVAIFLEGRPEFVGLWGLAKAGMEALLNVNLRREPLAFCLGTSKAKALI 180
Db 121 RQLGFAPGDVVAIFLEGRPEFVGLWGLAKAGMEALLNVNLRREPLAFCLGTSKAKALI 180
QY 181 FGGEMVAANAESVSHLKSILKFCSDGLPGLPDLTHLLDPLLEKASTAPLAQIPSKGM 240
Db 181 fggemvaanaesvshlksilkfcsdglppegilpdlthlldplllekastaplaqipskgm 240
QY 241 DDLRFYIYTSCTTGLPKAAIVVHSRYRMAAFGHAYRMAQADVLDCILYHSAGNIIG 300
Db 241 ddriflytscttgtpkaaivvhsryrmaafghayrmaqadvldcilyhsagniiig 300
QY 301 VGQCLIXGLTVLVRKFSASRFWDCCIKNCTVVQYIGEICRYLLKQPVREARRHRVRL 360
Db 301 vgqcliygltlvvrkfsasrfwdcciknctvvqyigeicryllkqpvreaerrhrvrl 360
QY 361 AVGNGLRPAIWEETERFGRVQIGEFYGATECNCSIANMDGKVGSCGFNSRLPHVYPIR 420
Db 361 avngnlrpaiweeterfgrvqigefygatecnscsianmdgkvsgcgfnslrphvypir 420
QY 421 LKVNEDTMELLRDAQGLCIPCOAGEPGLLVGOINQODPLRRFDGYVSESATSKTAHSV 480
Db 421 lkvnedtmellrdaqglcipcagepglvlvgoinqodplrrfdgyvsesatskktahsv 480
QY 481 FSKGDSAYLSGDVLVMDDELGYMYFRDRSGDTFRWRGENYSTTEVEGVLRLQGTQDVAVY 540
Db 481 fskgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvstttevegvlrllqgtqvavy 540
QY 541 GVAVPGVEGKAGMAAADPHSLDNPNAIYQELQKVLAPYARPIFLRLLPQVDTGTGFKIQ 600
Db 541 gvavpgvegkagmaaadvphslldnpnaiyqelqkvlapvarpiflrlpqvdtgtgfkik 600
QY 601 KTRLQREGFPDRTSRLRFLDLKQGHYLPNEAVYTRICSGAFAL 646
Db 601 ktrlqregfpdrtsrllrflldlkqghyplneavytricsgafal 646

RESULT 3
AAB83232
ID AAB83232 standard; Protein; 646 AA.
AC AAB83232;
XX
DT 06-JUL-2001 (first entry)
DE Human FATP1 SEQ ID NO: 25.
XX
KW Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW weight control; tuberculosis; TB; anti-fungal.
XX
OS Homo sapiens.
XX
PN WO200121795-A2.
XX
PD 29-MAR-2001.
XX
PF 21-SEP-2000; 2000WO-US25891.
XX
PR 23-SEP-1999; 99US-0405504.
PR 23-SEP-1999; 99US-0405505.
PR 16-DEC-1999; 99US-0465280.
PR 17-FEB-2000; 2000US-0506252.
XX 06-JUL-2000; 2000US-0611197.
XX
PA (WHED ) WHITEHEAD INST BIOMEDICAL RES.

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(MILL-) MILLENNIUM PHARM INC.

Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;

WPI: 2001-354783/37.

N-PSDB: AAF89010.

New fatty acid transport proteins (FATPs) useful for the manufacture of medicament for treating obesity, diabetes and heart disease -

Disclosure: Fig 26; 287pp; English.

The present invention provides the protein and coding sequences of fatty acid transport proteins (FATPs) from a number of species, including FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5 from the mouse, FATP4 and b from C. elegans, and FATP from Aspergillus nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium tuberculosis and Cochliobolus heterostrophus. The FATP from M. tuberculosis can be used to identify inhibitors which can then be used to treat TB. That from M. grisea (also known as rice blast fungus) can be used to develop anti-fungal agents capable of preventing infection of rice. Those from the human can be used to develop treatments for diabetes, heart disease, obesity, hyperlipidaemia and weight control. The present sequence is one of the sequences described in the exemplification of the invention.

Sequence 646 AA;

Query Match 100.0%; Score 3372; DB 22; Length 646;

Best Local Similarity 100.0%; Pred. No. 0;

Matches 646; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

QY 1 MRAPGAGAASVVSALLWLLGLPMTWSAAAALGVYVSGSGWRFLRIVCKTARRDLFGLSV 60
Db 1 mrpagaasvvsallwllglpwtwsaaalgvygsgwfrlrvcktarldfqlsv 60
QY 61 LIRVLELRHQRAGHTIPRIFQAVQRPRLALVDAGTCEWTFQAQLDAYSNANLNF 120
Db 61 LIRVLELRHQRAGHTIPRIFQAVQRPRLALVDAGTCEWTFQAQLDAYSNANLNF 120
QY 121 RQLGFAPGDVVAIFLEGRPEFVGLWGLAKAGMEALLNVNLRREPLAFCLGTSKAKALI 180
Db 121 RQLGFAPGDVVAIFLEGRPEFVGLWGLAKAGMEALLNVNLRREPLAFCLGTSKAKALI 180
QY 181 FGGEMVAANAESVSHLKSILKFCSDGLPGLPDLTHLLDPLLEKASTAPLAQIPSKGM 240
Db 181 fggemvaanaesvshlksilkfcsdglppegilpdlthlldplllekastaplaqipskgm 240
QY 241 DDLRFYIYTSCTTGLPKAAIVVHSRYRMAAFGHAYRMAQADVLDCILYHSAGNIIG 300
Db 241 ddriflytscttgtpkaaivvhsryrmaafghayrmaqadvldcilyhsagniiig 300
QY 301 VGQCLIXGLTVLVRKFSASRFWDCCIKNCTVVQYIGEICRYLLKQPVREARRHRVRL 360
Db 301 vgqcliygltlvvrkfsasrfwdcciknctvvqyigeicryllkqpvreaerrhrvrl 360
QY 361 AVGNGLRPAIWEETERFGRVQIGEFYGATECNCSIANMDGKVGSCGFNSRLPHVYPIR 420
Db 361 avngnlrpaiweeterfgrvqigefygatecnscsianmdgkvsgcgfnslrphvypir 420
QY 421 LKVNEDTMELLRDAQGLCIPCOAGEPGLLVGOINQODPLRRFDGYVSESATSKTAHSV 480
Db 421 lkvnedtmellrdaqglcipcagepglvlvgoinqodplrrfdgyvsesatskktahsv 480
QY 481 FSKGDSAYLSGDVLVMDDELGYMYFRDRSGDTFRWRGENYSTTEVEGVLRLQGTQDVAVY 540
Db 481 fskgdsaylsgdvlvmdelgymyfrdrsgdtfrwrgenvstttevegvlrllqgtqvavy 540
QY 541 GVAVPGVEGKAGMAAADPHSLDNPNAIYQELQKVLAPYARPIFLRLLPQVDTGTGFKIQ 600
Db 541 gvavpgvegkagmaaadvphslldnpnaiyqelqkvlapvarpiflrlpqvdtgtgfkik 600

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QY 601 KTRLOREGDPQTSRDLFFLDLKQGHYLPNEAVYTRICSGAFAL 646
 |||
 Db 601 ktrlregfdprqtsdrldfllldlkqghylpneavytricsgafal 646

RESULT 4
 AAB83234
 ID AAB83234 standard; Protein; 646 AA.

XX AAB83234;

AC AAB83234;

DT 06-JUL-2001 (first entry)

XX Human FATP1 SEQ ID NO: 32.

XX Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;

KW yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;

KW weight control; tuberculosis; TB; anti-fungal.

XX Homo sapiens.

XX WO200121795-A2.

XX 29-MAR-2001.

XX 21-SEP-2000; 2000WO-US25891.

XX 23-SEP-1999; 99US-0405504.

XX 23-SEP-1999; 99US-0405505.

XX 16-DEC-1999; 99US-0465280.

XX 17-FEB-2000; 2000US-0506252.

XX 06-JUL-2000; 2000US-0611197.

XX (WHED) WHITEHEAD INST BIOMEDICAL RES.

PA (MILL-) MILLENNIUM PHARM INC.

XX Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;

XX WPI; 2001-354783/37.

XX New fatty acid transport proteins (FATPs) useful for the manufacture of
 PT medicament for treating obesity, diabetes and heart disease -
 XX Disclosure; Fig 32; 287pp; English.

XX The present invention provides the protein and coding sequences of fatty
 CC acid transport proteins (FATPs) from a number of species, including
 CC FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
 CC from the mouse, FATP4 and b from C. elegans, and FATP from Aspergillus
 CC nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
 CC tuberculosis and Cochliobolus heterotrophus. The FATP from M.
 CC tuberculosis can be used to identify inhibitors which can then be used to
 CC treat TB. That from M. grisea (also known as rice blast fungus) can be
 CC used to develop anti-fungal agents capable of preventing infection of
 CC rice. Those from the human can be used to develop treatments for
 CC diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
 CC present sequence is one of the sequences described in the exemplification
 CC of the invention.

XX Sequence 646 AA;

Query Match 100.0%; Score 3372; DB 22; Length 646;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 646; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MRAPGAGAAVSVALLWLGLPWTWSAAALGVYVSGGWRPLRVCKTARRDLFGLSV 60
 |||
 Db 1 mrpagaasvvalwlglpwtwsaaalgvvyvsggwrplrvcktarldfglsv 60

QY 61 LIRVRLRRHORAGHTIPRIFQAVQORPERIALVDAGTGCWTFQAOLDAYSNAVANLF 120
 |||
 Db 61 lrvrlrrhraghtiprifqavvqrperialvdagtgctwfqadldaysnavanlf 120

QY 121 RQLGFAPGDVVAIFLEGPRPEFVGLWLGLAKAGMEALLNVNLRREPFLACLTGTSKALI 180
 |||
 Db 121 rqlgfapgdvvaiflegprpefvgllglakagmeallnvnlrreplacltgsakali 180

QY 181 FGGEMVAANAESVGHGKSLKFCSDGLGPEGILPDLPLLLKEASTAPLAQIPSKGM 240
 |||
 Db 181 fggemvaanaesvghgkslkfcsgdlgpegilpdlplllkeastaplaqpskqm 240

QY 241 DDRLFYITSGTTGLPKAAIVVHSRYRMAAFHGHAYRMOAADVLDCLPLVHSAGNIIG 300
 |||
 Db 241 ddrlyfytsgttglpkaaivvhsryrmaafghghayrmqaadvldclplyhsagniiig 300

QY 301 VGQCLIIYGLTVLVRKFSASRFRWDDCIKYNCTVQYIGEICRYLLKQPVREARRHRVL 360
 |||
 Db 301 vgqcllygltcvllvrkfsasrfwddcikynctvqyigeicryllkqpvreaerrhrvrl 360

QY 361 AVGNGLRPAIWEFTREFGVQRIGEFYGATECNCSTANMDGKVGSCGFNSRILPHVYPLR 420
 |||
 Db 361 avgngrlpaiweeafterfgvrq:gefygatecncstanmdgkvsgcfnsrllphvyplr 420

QY 421 LKVNEDTMELLRDAOGLCIPCOAGPGLLVGOINQDDPLRRPDGVVSESATSKKIAHSV 480
 |||
 Db 421 lkvnedtmellrdagglcipcagagpgllvgqinqdplrrfdgyvsesatsskklahsv 480

QY 481 FSKGDSAYLSGDVLMDELGYMYFRDRSGDTFRWGENVSTTEVEGVLRLGQTDAVY 540
 |||
 Db 481 fskgdsaylsgdvlmdelgymyfrdrsgdtfrwgenvsttevegvlrllgqtdvay 540

QY 541 GVAVPGVEGKAGMAAVADPHSLDDPNAIYQELQKVLAPYARPIFLRLPOVDTTGTFKIQ 600
 |||
 Db 541 gvavpgvegkagmaavadvphslldpnaiyqelqkvlapyarpifrlilpqvdtgtgfkq 600

QY 601 KTRLOREGDPQTSRDLFFLDLKQGHYLPNEAVYTRICSGAFAL 646
 |||
 Db 601 ktrlregfdprqtsdrldfllldlkqghylpneavytricsgafal 646

RESULT 5

AAB83239

ID AAB83239 standard; Protein; 646 AA.

XX AAB83239;

XX 06-JUL-2001 (first entry)

XX Human FATP1 SEQ ID NO: 38.

XX Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;

KW yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;

KW weight control; tuberculosis; TB; anti-fungal.

XX Homo sapiens.

XX WO200121795-A2.

XX 29-MAR-2001.

XX 21-SEP-2000; 2000WO-US25891.

XX 23-SEP-1999; 99US-0405504.

XX 23-SEP-1999; 99US-0405505.

XX 16-DEC-1999; 99US-0465280.

XX 17-FEB-2000; 2000US-0506252.

XX 06-JUL-2000; 2000US-0611197.

XX (WHED) WHITEHEAD INST BIOMEDICAL RES.

XX (MILL-) MILLENNIUM PHARM INC.

XX Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;

XX WPI; 2001-354783/37.

PT New fatty acid transport proteins (FATPs) useful for the manufacture of
PT medicament for treating obesity, diabetes and heart disease -
PS Disclosure; Fig 36; 287pp; English.

XX The present invention provides the protein and coding sequences of fatty
CC acid transport proteins (FATPs) from a number of species, including
CC FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC from the mouse, FATP4 and b from C. elegans, and FATP from Aspergillus
CC nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC tuberculosis and Cochliobolus heterotrophus. The FATP from M.
CC treat TB. That from M. grisea (also known as rice blast fungus) can be used to
CC used to develop anti-fungal agents capable of preventing infection of
CC rice. Those from the human can be used to develop treatments for
CC diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC present sequence is one of the sequences described in the exemplification
CC of the invention.

XX Sequence 646 AA;

Query Match 100.0%; Score 3372; DB 22; Length 646;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 646; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MRAPGAGAAVSVSLALLLGLPWTWSAAAALGVYVGGWRFRLIVCKTARRDLFGLSV 60
DB 1 mrpagaasvslalllglpwtwsaaaalgvyygsgwrfrrivcktarrrdlfglsv 60
QY 61 LIRVLELRHRRAGHTTIPRIFOAVVQRPRLALVDAGTGCWTFQAQDAYSNVANLF 120
DB 61 lrvrlelrhraghttiprifqavvqrperlalvdagtgcewtfqadaysnavanlf 120
QY 121 RQGFAPGDVVAIFLEGREFVGLWGLAKAGNEALLNVNRRPLAFCLGTSAGAKALI 180
DB 121 rlgfapgdvvaiflegrefvglwglakagmeaallnvnrrreplafclgtsgakali 180
QY 181 FGEVMAAAVSVSHGLKSLIKFCSDGLGPEGILPDTHLLDPLLEASTAPLAQIPSKGM 240
DB 181 fgemvaavaevshglkslikfcsgdlgpegilpdthlldpllleastaplaqipskgm 240
QY 241 DRLFIYSGTGTGPKAAIVVHRSYRMAAFHHAYRMAQADVLDCPLPHSAGNIIG 300
DB 241 ddrlyfytsgtgtgpkaaivvhsryrmaafghbayrmaqadvldcplphsagnli 300
QY 301 VGQCLTYGLTVLRRKFSASRFWDGCIKYNCTVVOYIGECRYLLKQPVREARRHVR 360
DB 301 vgclytygltvllrrkfsasrfwdgciykncvtvvoygecryllkqpvreaerrhvr 360
QY 361 AVNGLRPAIWEETFERGVQIGEFYGATECNCSIANMDGKVGSCGFNSRILPHVPIR 420
DB 361 avnglrpaiweeterfgvqigefygatecnscsianmdgkvsgcfnsrilmphvpir 420
QY 421 LVKVNEDTNEILLRDAQGLICPCQAGEPGLLVGQINQDPLRFRDGYVSESATSKIAHSV 480
DB 421 lvkvnedtneillrdaqglcpcqagepglvlgqinqdplrrfdgyvsesatskiahsv 480
QY 481 FSKGDSAYLSGDLVMDLGYMYFRDRSGDTFRWRGENVSTVEGVLSRLGQTDVAVY 540
DB 481 fskgdsaylsagdvlmdlgymyfrdrsgdtfrwrgevnstvegvlsrlgqtdvavy 540
QY 541 GVAVPGVEGKAGMAAVADPHSLDPNAYIQELQKVLAPYARPIFLRLLPQVDTTGTFTKI 600
DB 541 gvavpgvegkagmaavadvphslldpnayiqelqkvlpapyarpiflrlpqvdtgtftki 600
QY 601 KTRLOREGFDPRQTSRDLFFDLKQGHYLPNEAVYTRICSGAFAL 646
DB 601 ktrlregfdprqtsrldlffdlkqghylpneavytricsgafal 646

RESULT 6
AAB83246

AB83246 standard; Protein; 646 AA.

AAB83246;

06-JUL-2001 (first entry)

Human FATP1 SEQ ID NO: 47.

Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
weight control; tuberculosis; TB; anti-fungal.

Homo sapiens.

WO200121795-A2.

29-MAR-2001.

21-SEP-2000; 2000WO-US25891.

23-SEP-1999; 99US-0405504.

23-SEP-1999; 99US-0405505.

16-DEC-1999; 99US-0465280.

17-FEB-2000; 2000US-0506252.

06-JUL-2000; 2000US-0611197.

(WHED) WHITEHEAD INST BIOMEDICAL RES.
(MILL-) MILLENNIUM PHARM INC.

Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;

WPI: 2001-354783/37.

N-PSDB; AAF89018.

New fatty acid transport proteins (FATPs) useful for the manufacture of
medicament for treating obesity, diabetes and heart disease -

Claim 79; Fig 45; 287pp; English.

The present invention provides the protein and coding sequences of fatty
acid transport proteins (FATPs) from a number of species, including
FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
from the mouse, FATP4 and b from C. elegans, and FATP from Aspergillus
nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
tuberculosis and Cochliobolus heterotrophus. The FATP from M.
tuberculosis can be used to identify inhibitors which can then be used to
treat TB. That from M. grisea (also known as rice blast fungus) can be
used to develop anti-fungal agents capable of preventing infection of
rice. Those from the human can be used to develop treatments for
diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
present sequence is one of the sequences described in the exemplification
of the invention.

Sequence 646 AA;

Query Match 100.0%; Score 3372; DB 22; Length 646;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 646; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MRAPGAGAAVSVSLALLLGLPWTWSAAAALGVYVGGWRFRLIVCKTARRDLFGLSV 60
DB 1 mrpagaasvslalllglpwtwsaaaalgvyygsgwrfrrivcktarrrdlfglsv 60
QY 61 LIRVLELRHRRAGHTTIPRIFOAVVQRPRLALVDAGTGCWTFQAQDAYSNVANLF 120
DB 61 lrvrlelrhraghttiprifqavvqrperlalvdagtgcewtfqadaysnavanlf 120
QY 121 RQGFAPGDVVAIFLEGREFVGLWGLAKAGNEALLNVNRRPLAFCLGTSAGAKALI 180
DB 121 rlgfapgdvvaiflegrefvglwglakagmeaallnvnrrreplafclgtsgakali 180
QY 181 FGEVMAAAVSVSHGLKSLIKFCSDGLGPEGILPDTHLLDPLLEASTAPLAQIPSKGM 240

Db 181 fggemvaavsgnlgksllfcsdglpegilpdlthlloplikeastaplaqpskqm 240
 Qy 241 DDRLFYIYTSGLPKAAIVVHSRYNMAAFGHAYRMOAADVLYDCLPLXHSAGNIIG 300
 Db 241 ddriflytsgtglpkaaivvhsryymaafghayrmqaadvlydclplyhsagnli 300
 Qy 301 VGQCILYGLTVLVRKKFSASRFDWDCIKYNTVVVOYIGETCRYLLKQPVREAEHRHVR 360
 Db 301 vgqcliygltvvlrkrkfsasrfdwcdikynctvvvyigeicryllkqpvreaerhrvr 360
 Qy 361 AVGNLRPAIWEETEREGVQIGEFYGATECNCNSIANMDGKVGSCGFNSRILPHVYPIR 420
 Db 361 avngnlrpaieweeterfgrqigefygatecncnsianmdgkvgscgfnsrllphvypir 420
 Qy 421 LVKVNEDTMELLRAQGLICPCQAGEPGLLVGQINQDDPLRRFDGYVSESAKSKIAHSV 480
 Db 421 lvkvnedtmellrdaaglcipcagepgllvgqinqddplrrfdgyvsesatskiahsv 480
 Qy 481 FSKGDSAYLSGDVLMDELGYMYPDRSGDTFRWRGENVSTVEGVLRLGGTDVAVY 540
 Db 481 fskgdsaylsgdvilmdegymydrsgdtfrwrgenvstvegvlrllgqtdvavy 540
 Qy 541 GVAVPGVEGKAGMAAVADPHSLDPNATYOELQKVLAPYARPIFLRLLPQVDTGTGFIQ 600
 Db 541 gvavpgvegkagmaavadvphslldpnalygelqkvlapyarpiflrlpqvdtgtgfiq 600
 Qy 601 KTRLQREGFDPQTSRDLFFLDLKGHYLPLNEAVYTRICSGAFAL 646
 Db 601 ktrlqregfdrqtsdrldfildlkghyplneavytricsgafal 646

RESULT 7

AAY40435
 ID AAY40435 standard; Protein: 646 AA.

AC AAY40435;
 XX 08-FEB-2000 (first entry)
 DE Human FATP protein sequence.
 KW Fatty acid transport protein; FATP; hFATP; cardiomyopathy; diabetes;
 KW long-chain fatty acid metabolism; obesity; human.
 OS Homo sapiens.
 PN WO9951740-A2.
 XX 14-OCT-1999.
 PF 02-APR-1999; 99WO-EP02295.
 XX 06-APR-1998; 98EP-0400823.
 PA (JANC) JANSSEN PHARM NV.
 PA (UNIW) UNIV WASHINGTON.
 XX Martin G, Nemoto M, Deeb SS, Auwerx J;
 DR WPI; 1999-620202/53.
 DR N-PSDB; AAZ38122, AAZ38125.
 XX New human fatty acid transport protein, hFATP, useful to screen for
 PT inhibitors or enhancers useful to regulate fatty acid metabolism -
 XX Claim 1; Fig 5; 83pp; English.

CC The invention provides a human fatty acid transport protein (hFATP).
 CC hFATP is believed to be involved in the modulation long-chain fatty acid
 CC metabolism; the protein and polynucleotides therefore enable production
 CC of compositions comprising a component regulating (inhibiting or
 CC enhancing) expression of the hFATP gene useful therapeutically to alter

CC intracellular or blood levels of long chain fatty acids. Such compounds
 CC are especially useful to treat conditions associated with deficient
 CC regulation (e.g. may comprise an inhibitor to treat cardiomyopathies or
 CC diabetes or an enhancer to treat obesity. The polynucleotides are also
 CC useful to screen compounds for their effects on hFATP expression, e.g.
 CC by measuring mRNA transcription in cells/cell extracts (e.g. liver
 CC cells) contacted with the compound and comparing with that in non-
 CC contacted cells. The present sequence represents the hFATP protein.
 XX Sequence 646 AA.

Query Match 99.9%; Score 3367; DB 20; Length 646;
 Best Local Similarity 99.8%; Pred. No. 0;
 Matches 645; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MRAPGAGAAVSVSLALLWLLGLPWTWAAAAALGVVGVGGWRFLRVCKTARRDLFGLSV 60
 Db 1 mrapgagaaavsvslallwllglpwtwaaaaalgvvgs99wrlrvckrtarrdlfglsv 60
 Qy 61 LIRVLELRHRRHAGHTIPRIFQAVVQROPERLALVDAGTGCCTFAQILDAYSNAVANLF 120
 Db 61 lrvrlelrhrrhaghtiprifqavvqrperlalvdagtgcctfaqildaysnavanlf 120
 Qy 121 RQLGFAPGDVVAIFLEGPRFEVGLWGLAKAGMEALLNVNRRREPLAFCLGTSKAKALI 180
 Db 121 rqlgfapgdvvaiflegprfefvglwglakagmeaallnvnrrreplafclgtsgakali 180
 Qy 181 FGGEMVAAVAESVGHGKSLIKFCSGDLGPEGLPDLTHLLDPLLEKASTAPLAQIPSKGM 240
 Db 181 fggemvaavaesvghgksllkfcsgdglpegilpdlthldplllekastaplaqipskgm 240
 Qy 241 DDRLFYIYTSGLPKAAIVVHSRYRMAAFGHAYRMOAADVLYDCLPLVHSAGNIIG 300
 Db 241 ddrlyfitytsgtglpkaaivvhsryymaafghayrmqaadvlydclplyhsagnli 300
 Qy 301 VGQCILYGLTVLVRKKFSASRFDWDCIKYNTVVVOYIGETCRYLLKQPVREAEHRHVR 360
 Db 301 vgqcliygltvvlrkrkfsasrfdwcdikynctvvvyigeicryllkqpvreaerhrvr 360
 Qy 361 AVGNLRPAIWEETEREGVQIGEFYGATECNCNSIANMDGKVGSCGFNSRILPHVYPIR 420
 Db 361 avngnlrpaieweeterfgrqigefygatecncnsianmdgkvgscgfnsrllphvypir 420
 Qy 421 LVKVNEDTMELLRAQGLICPCQAGEPGLLVGQINQDDPLRRFDGYVSESAKSKIAHSV 480
 Db 421 lvkvnedtmellrdaaglcipcagepgllvgqinqddplrrfdgyvsesatskiahsv 480
 Qy 481 FSKGDSAYLSGDVLMDELGYMYPDRSGDTFRWRGENVSTVEGVLRLGGTDVAVY 540
 Db 481 fskgdsaylsgdvilmdegymydrsgdtfrwrgenvstvegvlrllgqtdvavy 540
 Qy 541 GVAVPGVEGKAGMAAVADPHSLDPNATYOELQKVLAPYARPIFLRLLPQVDTGTGFIQ 600
 Db 541 gvavpgvegkagmaavadvphslldpnalygelqkvlapyarpiflrlpqvdtgtgfiq 600
 Qy 601 KTRLQREGFDPQTSRDLFFLDLKGHYLPLNEAVYTRICSGAFAL 646
 Db 601 ktrlqregfdrqtsdrldfildlkghyplneavytricsgafal 646

RESULT 8

AAY40436
 ID AAY40436 standard; Protein: 646 AA.

AC AAY40436;
 XX 08-FEB-2000 (first entry)
 DE Human FATP1 protein sequence.
 KW Fatty acid transport protein; FATP; hFATP1; cardiomyopathy; diabetes;
 KW long-chain fatty acid metabolism; obesity; human.

XX Homo sapiens.
OS WO9951740-A2.
PN 14-OCT-1999.
PD 02-APR-1999; 99WO-EP02295.
XX 06-APR-1998; 98EP-0400823.
XX (JANC) JANSSEN PHARM NV.
PA (UNIW) UNIV WASHINGTON.
XX Martin G, Nemoto M, Deeb SS, Auwerx J;
XX WPI; 1999-620202/53.
XX New human fatty acid transport protein, hFATP, useful to screen for
PT inhibitors or enhancers useful to regulate fatty acid metabolism -
XX Claim 1; Fig 2; 83pp; English.
XX The invention provides a human fatty acid transport protein (hFATP).
CC hFATP is believed to be involved in the modulation long-chain fatty acid
CC metabolism; the protein and polynucleotides therefore enable production
CC of compositions comprising a component regulating (inhibiting or
CC enhancing) expression of the hFATP gene useful therapeutically to alter
CC intracellular or blood levels of long chain fatty acids. Such compounds
CC are especially useful to treat conditions associated with deficient
CC regulation (e.g. may comprise an inhibitor to treat cardiomyopathies or
CC diabetes or an enhancer to treat obesity. The polynucleotides are also
CC useful to screen compounds for their effects on hFATP expression, e.g.
CC by measuring mRNA transcription in cells/cell extracts (e.g. liver
CC cells) contacted with the compound and comparing with that in non-
CC contacted cells. The present sequence represents the hFATP1 protein.
XX Sequence 646 AA;
SQ

Query Match 99.6%; Score 3360; DB 20; Length 646;
Best Local Similarity 99.7%; Pred. No. 0;
Matches 644; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MRAPGAGAAVSVSLALLMLLPLTWTSAAALGVVSGGWRFLRVCKTARRDLFGLSV 60
DB 1 mrapgagaavsvslallmlpltwtsaaalgvyvggwrflrvckrtarrdlfglsv 60
QY 61 LIRVLELRHRRAGHTIPRIFQAVVQRPRLALVDAGTGEQWTFALDAYSNAVANLF 120
DB 61 lrvrlelrhrraghtiprifqavvqrperlalvdagtgectwtfaldaysnavanlf 120
QY 121 ROLGAPAGDVVAIFLEGPRFEFVGLWGLAKAGMEALLNVNLRREPLAFCLGTSGAKALI 180
DB 121 rlgfapagdvvaiflegprfefvglwglakagmeallnvnlrrreplafclgtsgakali 180
QY 181 FGEWMAVAEVSGLKSLKFCSDGLGPEGILPDTHLLDPLKKEASTAPLAQIPSKGM 240
DB 181 fgewmavaevsghlksllkfcsgdlgpegilpdthllpdlkkestaplaqipskgm 240
QY 241 DDLRFYVTSGTGLPKAAIVVHSHRYRMAAFGHHAYRMAQADVLYDCLPLHYSAGNIIG 300
DB 241 ddrlfytsgtglpkaaivvshsryrmaafghharyrmaqadvlydclplyhsagnliig 300
QY 301 VGQCLYIGLTVVLRKKFSASRFWDDCIKYNCTVVQYIGECICRYLLKQPVREARRHRVRL 360
DB 301 vgqcliygltvvlrvkkfsasrfwddcikynctvvqyigeicryllkqpvrearrhrvrl 360
QY 361 AVGNGLRPAIWEETFERFVGRQIGEFYGATECNCNSIAMDGKVGSCGFNSRILPHVYPPIR 420
DB 361 avngnlrpaiweetferfvgrqigefygatecncnsiamdgkvgscgfnslrphvypir 420
QY 421 LVKNEDTMEILLRDAQGLICFCQAGEPGLLVGQINQQDPLRRFRFDGYSSESATSKIAHSV 480

Db 421 lvknedtmellrdagglcipcagepgllvgqinqqprrfdgyvsesatskiahsv 480
QY 481 FSKGDSAYLSGDVLYMDELGYMYFRDRSGDTFRWRGENVSTTEGVLSRLLGQTDVAVY 540
DB 481 fskgdsaylsgdvlymdelgymyfrdrsgdtfrwrgenvsntevegvlslrlgqtdvavy 540
QY 541 GVAVPGVEGKAGMAAVADPHSLDDPNALYQELQKVLAPYARPIFLRLLPQVDTTGTfKIQ 600
DB 541 gvavpgvegkagmaavadvphslldpnalyselqkvlapyarpiflrlppqvdttgtfkiq 600
QY 601 KTRLQREGFDPRTSDRLFFDLKQGHVPLPLNEAVYFRICSGAFAL 646
DB 601 ktrlqregfdprtsdrlffdlkqghyplpneavytricsgafal 646
RESULT 9
AAB83244
ID AAB83244 standard; Protein; 630 AA.
XX AAB83244;
XX 06-JUL-2001 (first entry)
XX Human FATP1 SEQ ID NO: 43.
XX Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW weight control; tuberculosis; TB; anti-fungal.
XX Homo sapiens.
XX WO200121795-A2.
XX 29-MAR-2001.
XX 21-SEP-2000; 2000WO-US25891.
XX 23-SEP-1999; 99US-0405504.
XX 16-DEC-1999; 99US-0465280.
XX 17-FEB-2000; 2000US-0506252.
XX 06-JUL-2000; 2000US-0611197.
XX (WHED) WHITEHEAD INST BIOMEDICAL RES.
XX (MILL-) MILLENNIUM PHARM INC.
XX Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;
XX WPI; 2001-354783/37.
XX New fatty acid transport proteins (FATPs) useful for the manufacture of
XX medicament for treating obesity, diabetes and heart disease -
XX Disclosure; Fig 39; 287pp; English.
XX The present invention provides the protein and coding sequences of fatty
XX acid transport proteins (FATPs) from a number of species, including
XX FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
XX from the mouse, FATP4 and b from C. elegans, and FATP from Aspergillus
XX nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
XX tuberculosis and Cochliobolus heterostrophus. The FATP from M.
XX treat TB. That from M. grisea (also known as rice blast fungus) can be
XX used to develop anti-fungal agents capable of preventing infection of
XX rice. Those from the human can be used to develop treatments for
XX diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
XX present sequence is one of the sequences described in the exemplification
XX of the invention.
XX Sequence 630 AA;
SQ


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Query Match      97.3%; Score 3280; DB 22; Length 630;
Best Local Similarity 97.5%; Pred. No. 0;
Matches 630; Conservative 0; Mismatches 0; Indels 16; Gaps 1;

QY 1 MRAPGAGASVSLALLWLLGLPWTWSAAAALGVYVGGWRFIRIVCKTARRDLFGLSV 60
DB 1 mrpagaasvslallwllglpwtwsaaaalgvvygsgwrfirivcktarrrdlfglsv 60

QY 61 LIRVLELRHQRAGHTIPRIFQAVVQRPRLALVDAGTCEWTFQAOLDAYSNAVANLF 120
DB 61 lrvrlelrhqraghtiprifqavvqrprrlalvdagtcewtfqaoldaysnavanlf 120

QY 121 ROLGFAPGDVVAIFLEGPEFVGLMLGLAKAGMEALLNVNLRREPLAFCLGTSAGAKALI 180
DB 121 rlgfapgdvvaiflegpefvglmlglakagmeaallnvnlrreplafclgtsagali 180

QY 121 rlgfapgdvvaiflegpefvglmlglakagmeaallnvnlrreplafclgtsaga---- 176

QY 181 FGEMVAVAEVSGLHGLKSLIKFCSDGLGPEGILDPDTHLLDPLKEASTAPLAIPSKGM 240
DB 177 -----sghlgslikfcsdglgpegilpdpthlldplkeastaplaipskgm 224

QY 241 DDLRFYIYTSVGTGLPKAAIVVHSRYRMAAFGHAYRMAQADVLYDCLPLYHSAGNIIG 300
DB 225 ddrifyiysvgtglpkaaivvhsryrmaafghayrmaqadvlydclplyhsagniiig 284

QY 301 VGOCLYIYGLTVLVRKFSASRFWDDCIKYNCTVVOYIGEICRYLLKQPVREARRHVRVL 360
DB 285 vggcliylgltvvlvrkfsasrfwddcikynctvvoyigeicryllkqpvrrearrhvr 344

QY 361 AVGNGLRPAIWEETFERFVGRIQGEFYGATECNCSTANMDKVGSCGFNSRILPHVPIR 420
DB 345 avngnlrpaieweetferfvgriqgefygatecncsianmdkgvscgfnslrphvpir 404

QY 421 LKVNEDTMELLRDAQGLICPCQAGEPGLLVGINQDDPLRRFDGYVSESATSKKIAHSV 480
DB 405 lkvnedtmellrdaqglcipcagepgllvginqddplrrfdgyvsesatskkiahsv 464

QY 481 FSKGDSAYLSGDVLMDELGYMFRDRSGDTFRWGENVSTTEVEGVLRLGLQTDVAVY 540
DB 465 fskgdsaylsgdvlmdelgymfrdrsgdtfrwgenvsttevegvlrlglqtdvavy 524

QY 541 GVAVPGVEGKAGAAVADPHSLDPAIYOELQKVLAPYARPIFLRLLPQVDTTGTFTIQ 600
DB 525 gvavpgvegkagaaavadphslldpaiyoeelqkvlapyarpiflrllpqvdtgtftiq 584

QY 601 KTRLREGFDPRTSDRLFFLDLKGCHYPLPLNEAVYTRICSGAFAL 646
DB 585 ktrlregfdprtsdrlffldlkgghyplplneavytricsgafal 630

RESULT 10
AA14952
ID AA14952 standard; protein; 646 AA.
XX
AC AA14952;
XX
XX
DT 26-OCT-1999 (first entry)
XX
DE Amino acid sequence of rat rnFATP1.
XX
KW Fatty acid transport protein; FATP; long chain fatty acid; LCFA;
KW fatty acid; FATP biosynthesis; obesity; diabetes; heart disease.
XX
OS Rattus norvegicus.
XX
XX WO9936537-A2.
XX
XX 22-JUL-1999.
XX
XX 14-JAN-1999; 99WO-US00182.
XX
XX 14-JAN-1999; 99US-0232201.
XX
XX 15-JAN-1998; 98US-0071374.
XX
XX 20-JUL-1998; 98US-0093491.

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PR 04-DEC-1998; 98US-0110941.
PR 14-JAN-1999; 99US-0232195.
PR 14-JAN-1999; 99US-0232197.
PR 14-JAN-1999; 99US-0232200.
XX
XX (MILL-) MILLENNIUM PHARM INC.
XX (WHED ) WHITEHEAD INST BIOMEDICAL RES.
XX
XX GImeno RE, Hirsch DJ, Lodish HF, Stahl A, Tartaglia LA;
XX
XX WPI; 1999-444398/37.
XX N-PSDB; AA200362.

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Fatty acid transport proteins and related polynucleotides, useful for treating obesity, diabetes and heart disease

Disclosure; Fig 57; 255pp; English.

The invention provides a family of fatty acid transport proteins (FATPs) that mediate transport of long chain fatty acids (LCFAs) across cell membranes into cells. Human and murine FATP proteins and nucleic acids encoding the proteins are provided. The FATP proteins can be produced by standard recombinant methodology. Fatty acid uptake by cells can be modulated by modulating biosynthesis of FATP proteins especially FATP6. In particular, antisense oligonucleotides can be used to modulate FATP biosynthesis. Modulation of FATP6 is useful for inhibiting fatty acid uptake in cardiac muscle of humans. Agents can be directed to cardiac muscle or liver by administering of a complex of the agent and a FATP6 binding moiety. DNA encoding FATP proteins can be used as a reference used in detecting variant alleles or homologues. Altering the LCFA uptake by administering an inhibitor or enhancer of FATP transport function in the small intestine can decrease or increase calories available as fats, and can decrease or increase circulating fatty acids. Blocking the function of FATP4 and also FATP2, is useful for treating obesity, diabetes and heart disease.

Sequence 646 AA;

Query Match 90.8%; Score 3062; DB 20; Length 646;
 Best Local Similarity 89.5%; Pred. No. 0;
 Matches 578; Conservative 30; Mismatches 38; Indels 0; Gaps 0;

```

QY 1 MRAPGAGASVSLALLWLLGLPWTWSAAAALGVYVGGWRFIRIVCKTARRDLFGLSV 60
DB 1 mrtppagtasvaslgllwllglpwtwsaaaalgvvygsgwrfirivcktarrrdlfglsv 60

QY 61 LIRVLELRHQRAGHTIPRIFQAVVQRPRLALVDAGTCEWTFQAOLDAYSNAVANLF 120
DB 61 lrvrlelrhqraghtiprifqavvqrprrlalvdagtcewtfqaoldaysnavanlf 120

QY 121 ROLGFAPGDVVAIFLEGPEFVGLMLGLAKAGMEALLNVNLRREPLAFCLGTSAGAKALI 180
DB 121 rlgfapgdvvaiflegpefvglmlglakagmeaallnvnlrreplafclgtsaakali 180

QY 181 FGEMVAVAEVSGLHGLKSLIKFCSDGLGPEGILDPDTHLLDPLKEASTAPLAIPSKGM 240
DB 181 yggemaavaevsseqqlksllkfcsgdldpdesvlpdqlldpmlaeaptplaqapkgm 240

QY 241 DDLRFYIYTSVGTGLPKAAIVVHSRYRMAAFGHAYRMAQADVLYDCLPLYHSAGNIIG 300
DB 241 ddrifyiysvgtglpkaaivvhsryrmaafghayrmaqadvlydclplyhsagnimg 300

QY 301 VGOCLYIYGLTVLVRKFSASRFWDDCIKYNCTVVOYIGEICRYLLKQPVREARRHVRVL 360
DB 301 vggcliylgltvvlvrkfsasrfwddcikynctvvoyigeicryllrqpvrrearrhvr 360

QY 361 AVGNGLRPAIWEETFERFVGRIQGEFYGATECNCSTANMDKVGSCGFNSRILPHVPIR 420
DB 361 avngnlrpaieweetferfvgriqgefygatecncsianmdkgvscgfnslrphvpir 420

QY 421 LKVNEDTMELLRDAQGLICPCQAGEPGLLVGINQDDPLRRFDGYVSESATSKKIAHSV 480
DB 421 lkvnedtmellrdaqglcipcagepgllvginqddplrrfdgyvsesatskkiahsv 480

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Db 421 lvkvnedtmeplrdsgglcipcpgpgllvqinqqplrrfdgvydsatnkkihshv 480
 QY 481 FSKGDSAYLSGDLVMDLGYMYFRDRSGDTFRWRGENVSTVEGVLRLGQTDVAVY 540
 Db 481 frkgdsaylsqdvvlmdelgymyfrdrsgdtfrwrgenvstveavslrllgtdvavy 540
 QY 541 GVAVPVEGKAGMAAADPHSLDDPNATYQELQKVLAPYARPIFLRLPLPOVDVTGTFKIQ 600
 Db 541 gvavpvegkagmaaiaqphnqldpnsmyqelqkvlasyaqpiflrlpqvdtgtfkiq 600
 QY 601 KTRLOREGFDRPQTSRDLFFDLKQCHVLPNEAVYTRICSGAFAL 646
 Db 601 ktrlregfdprqtsdrifldlkqgrylpldervharicagdfsl 646

RESULT 11

AAB83269
 ID AAB83269 standard; Protein: 646 AA.

AC AAB83269;

DT 06-JUL-2001 (first entry)

DE Murine FATP1 SEQ ID NO: 92.

XX Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;

KW yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
 KW weight control; tuberculosis; TB; anti-fungal.

OS Mus musculus.

XX WO200121795-A2.

XX 29-MAR-2001.

XX 21-SEP-2000; 2000WO-US25891.

XX 23-SEP-1999; 99US-0405504.

XX 16-DEC-1999; 99US-0405505.

XX 17-FEB-2000; 2000US-0506252.

XX 08-JUL-2000; 2000US-0611197.

PA (WHEE) WHITEHEAD INST BIOMEDICAL RES.

PA (MILL-) MILLENNIUM PHARM INC.

PI Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;

DR WPI; 2001-354783/37.

XX New fatty acid transport proteins (FATPs) useful for the manufacture of
 PT medicament for treating obesity, diabetes and heart disease -

PS Disclosure; Fig 1; 287pp; English.

XX The present invention provides the protein and coding sequences of fatty
 CC acid transport proteins (FATPs) from a number of species, including
 CC FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
 CC from the mouse, FATP6 and b from C. elegans, and FATP from Aspergillus
 CC nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
 CC tuberculosis and Cochliobolus heterostrophus. The FATP from M.
 CC tuberculosis can be used to identify inhibitors which can then be used to
 CC treat TB. That from M. grisea (also known as rice blast fungus) can be
 CC used to develop anti-fungal agents capable of preventing infection of
 CC rice. Those from the human can be used to develop treatments for
 CC diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
 CC present sequence is one of the sequences described in the exemplification
 CC of the invention.

XX Sequence 646 AA;

Query Match

90.7%; Score 3057; DB 22; Length 646;

Best Local Similarity 89.6%; Pred. No. 0;
 Matches 579; Conservative 29; Mismatches 38; Indels 0; Gaps 0;

QY 1 MRAPAGAAASVVSLALLMLLGLPMTWSAAAAAGVYVSGGWRFLRIIVCKTARRDLFGLSV 60
 Db 1 mrpagaasvasallwflglpwtwaaafvcyvggwrflriivcktarrrdlfglsv 60
 QY 61 LIRVLELRRHORAGHTIPRIFOAVQVQPERLALVADAGTGCWTFQAQLDAYSNANVLF 120
 Db 61 lrvlelrhrhrgdtiprcifqavarrqperialvldassgicwtfaqltdysnavanlf 120
 QY 121 ROLGAPGDVVAIFLEGRPEFVGLWGLAKAGMEAAALLNVLRRPELAFCLGSGAKALI 180
 Db 121 rqlgfpagdvvaiflegprpefvglwglakagvvaalnlvnlrrleplafclgcsaakali 180
 QY 181 FGGEMVAVAEVSGLKSLIKFCSGDLGPBGILPDPHLLDPLLEKASTAPLAQIPSKGM 240
 Db 181 yggemaavaevseqlsgksllkfcsgdlgpessilpdtqlldpmlaeaptplaqaqpgkgm 240
 QY 241 DDRLEYIYTSCTGLPRAAIWVHSRYRMAAFGHAAVMOAADVLYDCLPLYHSAGNIIG 300
 Db 241 ddrleyiytsctglpkaaiwvhsryriaafghhsysmraadvlydcplyhsagnimg 300
 QY 301 VGQCLLYGLTVLKKFSARFWDCCIYNTVVOYIGETCRYLLKQPVREAERHRVRL 360
 Db 301 vgclylglvtvlrkkfsarfwddcvkynctvvyigeicryllrqpvrdveqhrvrl 360
 QY 361 AVGNGLRPAIWEETFERFGVROIGEFVGATECNCSTANMDGKVGSGGFRNSRLPHVYPIR 420
 Db 361 avngnlrpaieeftqrfvgvqigefygatencsianmdgkvgscgfnslrthvypir 420
 QY 421 LVKVNEDTMELLRAQCLCIPCQAGPGLLVGQINQODPLRRFDGVSEATSKKIAHSV 480
 Db 421 lvkvnedtmeplrdsegclpcpgpgllvqinqqplrrfdgvydsatnkkihshv 480
 QY 481 FSKGDSAYLSGDLVMDLGYMYFRDRSGDTFRWRGENVSTVEGVLRLGQTDVAVY 540
 Db 481 frkgdsaylsqdvvlmdelgymyfrdrsgdtfrwrgenvstveavslrllgtdvavy 540
 QY 541 GVAVPVEGKAGMAAADPHSLDDPNATYQELQKVLAPYARPIFLRLPLPOVDVTGTFKIQ 600
 Db 541 gvavpvegkagmaaiaqphnqldpnsmyqelqkvlasyaqpiflrlpqvdtgtfkiq 600
 QY 601 KTRLOREGFDRPQTSRDLFFDLKQCHVLPNEAVYTRICSGAFAL 646
 Db 601 ktrlregfdprqtsdrifldlkqgrylpldervharicagdfsl 646

RESULT 12

AAB83235

ID AAB83235 standard; Protein: 646 AA.

XX AC AAB83235;

XX DT 06-JUL-2001 (first entry)

XX DE Murine FATP1 SEQ ID NO: 33.

XX KW Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;

KW yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
 KW weight control; tuberculosis; TB; anti-fungal.

XX OS Mus musculus.

XX PN WO200121795-A2.

XX 29-MAR-2001.

XX 21-SEP-2000; 2000WO-US25891.

XX 23-SEP-1999; 99US-0405504.

XX 23-SEP-1999; 99US-0405505.

XX 16-DEC-1999; 99US-0465280.

17-FEB-2000; 2000US-0506252.
06-JUL-2000; 2000US-0611197.
(WHED) WHITEHEAD INST BIOMEDICAL RES.
(MILL-) MILLENNIUM PHARM INC.
Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;
WPI; 2001-354783/37.
New fatty acid transport proteins (FATPs) useful for the manufacture of
medicament for treating obesity, diabetes and heart disease -
Disclosure: Fig 32; 287pp; English.
The present invention provides the protein and coding sequences of fatty
acid transport proteins (FATPs) from a number of species, including
FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
from the mouse, FATP6 and b from C. elegans, and FATP from Aspergillus
nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
tuberculosis and Cochliobolus heterostrophus. The FATP from M.
tuberculosis can be used to identify inhibitors which can then be used to
treat TB. That from M. grisea (also known as rice blast fungus) can be
used to develop anti-fungal agents capable of preventing infection of
rice. Those from the human can be used to develop treatments for
diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
present sequence is one of the sequences described in the exemplification
of the invention.
XX XX
XX Sequence 646 AA;
Query Match 90.6%; Score 3054; DB 22; Length 646;
Best Local Similarity 89.5%; Pred. No. 0;
Matches 578; Conservative 30; Mismatches 38; Indels 0; Gaps 0;
QY 1 MRAPGAGAASVSLALWILGLPWTWSAAALGVYSGGWRFLRVCKTARRDLFGLSV 60
DB 1 mrpaggatvasalallwflglpwtwsaaafcvyvgggwrrflrvcktrrdlflglsv 60
QY 61 LIRVRLRHRORAGHTIPRIQAVVQROPERLALVDAGTGECWTFQAQIDAYSNAVANLF 120
DB 61 lrvrlrhroraghtipricavvqroperlalvldagtgecwtfqaqidaysnavanlf 120
QY 121 RQLGFAPGDVVAIFLEGRPEFVGLWGLAKAGMEALLNNVLRREPLAFCLGTSKAKALI 180
DB 121 rqlgfapgdvvaiiflegrepefvglwglakagmeaallnnvrrreplafclgtsaakali 180
QY 191 FGGEMVAARVESHGLKSLIKFCSDGLPEGLTPDTHLLDPLLEASTAPLAQIPSKGM 240
DB 191 fggemvaarveshglkslikfcsgdglpegltpdthlldpllleastaplaqipsgkm 240
QY 241 DDRLFYVTGTTGLPKAAIWHVSRYRMAAFGHYARMQAADVLYDCLPLVHSGAGNIIG 300
DB 241 ddrifyvtgttglpkaaivhvsryryraafghhsymraadvlydcplvhsagning 300
QY 301 VQGCILVGLTVLWLRKKSASRFDWDCIKYNTVQVIGETICRVLILKOPVREARRHVRVL 360
DB 301 vgcilvgltvllwrkksasrfdwdcikyntvqvigeticrvlilkopvreaerrhvrvl 360
QY 361 AVGNGLRPAIWEETFRFGRVQIGEFYGATECNCSIANMDKGVSGCGFNSRILPHVYPIR 420
DB 361 avngnlrpaieweetfrfgrvqigefygatecncsianmdkgvsgcgfnsrlphvypir 420
QY 421 LVKVNEDTMELLRDAQGLICPCQAGEPGLLVGQINQODPLRRFDGVVSSASKKAHVS 480
DB 421 lvkvnedtmellrdaqglcpcqagepglvlvgqinqodplrrfdgvvssatkkahsv 480
QY 481 FSKGDSAYLSGDLVMDLGYMYFDRSGDTFRWRGENVSTTEVEGVLSRLLGOTDVAVY 540
DB 481 frkgdsaylsdglvmdlgymyfrdsgdtfrwrgenvsttevegvlsrllgqtdvavy 540
QY 541 GVAVFGEVGEKAGMAAVADPHSLDDPNAIYQELQKVLAPYARPIFLRLLPQVDTGTGFIQ 600

Db 541 gvavpgevkgamaaiadphsqldpnsmyqelqkviasyarpflrllpqvdtgtfkiq 600
QY 601 KTRLQREGFDPQRTSDRLFFLDLKGHYLPLNEAVVTRICSGAFAL 646
DB 601 ktrlqregfdrpqrtsdrlffldlkgqyrvpldervharicagdfsl 646
RESULT 13
AAY14955
ID AAY14955 standard; protein; 647 AA.
AC AAY14955;
XX
XX 26-OCT-1999 (first entry)
XX Amino acid sequence of murine mmFATP1.
XX Fatty acid transport protein; FATP; long chain fatty acid; LCFA; murine;
XX fatty acid; FATP biosynthesis; obesity; diabetes; heart disease.
XX Mus sp.
XX WO9336537-A2.
XX 22-JUL-1999.
XX 14-JAN-1999; 99WO-US00182.
XX 14-JAN-1999; 99US-0232201.
XX 15-JAN-1998; 98US-0071374.
XX 20-JUL-1998; 98US-0093491.
XX 04-DEC-1998; 98US-0110941.
XX 14-JAN-1999; 99US-0232195.
XX 14-JAN-1999; 99US-0232197.
XX 14-JAN-1999; 99US-0232200.
XX (MILL-) MILLENNIUM PHARM INC.
XX (WHED) WHITEHEAD INST BIOMEDICAL RES.
XX Gimeno RE, Hirsch DJ, Lodish HF, Stahl A, Tartaglia LA;
XX WPI; 1999-444398/37.
XX N-PSDB; AA200365.
XX Fatty acid transport proteins and related polynucleotides, useful
XX for treating obesity, diabetes and heart disease
XX Example 1; Fig 63; 255pp; English.
XX The invention provides a family of fatty acid transport proteins (FATPs)
XX that mediate transport of long chain fatty acids (LCFAs) across cell
XX membranes into cells. Human and murine FATP proteins and nucleic acids
XX encoding the proteins are provided. The FATP proteins can be produced
XX by standard recombinant methodology. Fatty acid uptake by cells can be
XX modulated by modulating biosynthesis of FATP proteins especially FATP6.
XX In particular, antisense oligonucleotides can be used to modulate FATP
XX biosynthesis. Modulation of FATP6 is useful for inhibiting fatty acid
XX uptake in cardiac muscle of humans. Agents can be directed to cardiac
XX muscle or liver by administration of a complex of the agent and a FATP6
XX binding moiety. DNA encoding FATP proteins can be used as a reference
XX used in detecting variant alleles or homologues. Altering the LCFA uptake
XX by administering an inhibitor or enhancer of FATP transport function in
XX the small intestine can decrease or increase calories available as fats,
XX and can decrease or increase circulating fatty acids. Blocking the
XX function of FATP4 and also FATP2, is useful for treating obesity,
XX diabetes and heart disease.
XX Sequence 647 AA;
XX
XX Query Match 89.8%; Score 3026.5; DB 20; Length 647;
XX Best Local Similarity 89.0%; Pred. No. 0;

Matches 576; Conservative 29; Mismatches 41; Indels 1; Gaps 1;

QY 1 MRAPGAGASVSLALLWLGLPWTWSAAALGVYVGGWRFLRIVCKTARRDLFGLSV 60
 Db 1 mrappgagtasvaslallwflglpwtwsaaaafcvyvgggwrfirivcktarrrdlfglsv 60

QY 61 LIRVLELRRHORAGHTIPRIFOAVVQROPERLALVDAGTGCWTFQAOLDAYSNAVANLF 120
 Db 61 lirvlelrrhragdtipcfqavarrqperlalvdassgicwtfqaldtysnavanlf 120

QY 121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEALNVLNRRERPLAFCLGTSAKALI 180
 Db 121 rqlgfapgdvavflegprpefvgllwglakagvvaallnvlrrerplafclgtsaakali 180

QY 181 FGGEMVAAVAESVSHLGSLLKFCSDGLGPEGILPDTHLLDPLLEKEASTAPLAQIPSKGM 240
 Db 181 yggemaaavaeseglgksllkfcsgdligpesilpdtqlldplmaeapttlaqapqkgm 240

QY 241 DDLRFYITSGTGLPKAAIVVHSRYRMAAFGHAYRMOAADVLYDCLPLYHSAGNIIG 300
 Db 241 ddrlfyitsgttglpkaaivvhsryriaafghhsymraadvlydclplyhsagnimg 300

QY 301 VGGCLYGLTVLVRKKFSARFDDCIKYNCTVVOYIGEICRYLLKQPVREARRHRVRL 360
 Db 301 vggcllygltvvlvrkkfsarfdwckvncvtdvddigeicryllrqpvrdveqhrvrl 360

QY 361 AVGNGLRPAIWEETFERFGVROIGEFYGATECNCISIANMDGKVGSCGFSNRILPHVPIR 420
 Db 361 avngnlrpaiweeftqrfvgvqigefygatecncsianmdgkvsgcgsfnriltphvpir 420

QY 421 LKVNEDTMELLRDAGGLICPCQAGEPGLLVQINQOPLRRFDGYVSESATSKIAHSV 480
 Db 421 lkvnedtmelrldseglcpcqgpegllvginqdprrfdgyvsdsatnkkiahsv 480

QY 481 FSKGDSAYLSGDLVMDLGYMYPRDRSGDTFRWRGENVSTTEVEGVLSRLGQTDVAVY 540
 Db 481 frkgdsaylsgdvlymdelgymyfrdrsgdtfrwrgenvstteveavlsrllgqtdvavy 540

QY 541 GVAVPVEGKAGMAAADPHSLDNPNAIYQELQKVLAPYARPTFLRLPQVDTGTGFKIQ 600
 Db 541 gvavpvegkagmaaiaadphslldnpnaiyqelqkvlasyarpiflrlpqvdtgtgfkik 600

QY 601 KTRLQREGFDPQTSRDLFLDLKQG-HYLPLNEAVYTRICSGAFAL 646
 Db 601 ktrlqregfdrqtsrldflldksgtrylpldervharicagdfsl 647

RESULT 14
 AAB83255
 XX AAB83255 standard; Protein; 647 AA.
 AC AAB83255;
 XX

DT 06-JUL-2001 (first entry)
 XX
 DE Murine FATP1 SEQ ID NO: 65.
 XX

KW Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
 KW yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
 KW weight control; tuberculosis; TB; anti-fungal.
 XX

OS Mus musculus.
 XX
 XX W0200121795-A2.
 PN
 XX
 XX 29-MAR-2001.
 PD
 XX
 XX 21-SEP-2000; 2000WO-US25891.
 PF
 XX
 PR 23-SEP-1999; 99US-0405504.
 PR 23-SEP-1999; 99US-0405505.
 PR 16-DEC-1999; 99US-0465280.
 PR 17-FEB-2000; 2000US-0506252.

16-JUL-2000; 2000US-0611197.
 (WHEED) WHITEHEAD INST BIOMEDICAL RES.
 (MILL-) MILLENNIUM PHARM INC.
 Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;
 WPI; 2001-354783/37.
 DR N-PSDB; AAF89027.
 XX
 XX New fatty acid transport proteins (FATPs) useful for the manufacture of
 PT medicament for treating obesity, diabetes and heart disease -
 PS Disclosure; Fig 63; 287pp; English.
 XX
 CC The present invention provides the protein and coding sequences of fatty
 CC acid transport proteins (FATPs) from a number of species, including
 CC FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
 CC from the mouse, FATP4 and b from C. elegans, and FATP from Aspergillus
 CC nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
 CC tuberculosis and Cochliobolus heterostrophus. The FATP from M.
 CC treat TB. That from M. grisea (also known as rice blast fungus) can be
 CC used to develop anti-fungal agents capable of preventing infection of
 CC rice. Those from the human can be used to develop treatments for
 CC diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
 CC present sequence is one of the sequences described in the exemplification
 CC of the invention..
 XX
 SQ Sequence 647 AA;

Query Match 89.8%; Score 3026.5; DB 22; Length 647;
 Best Local Similarity 89.0%; Pred. No. 0;
 Matches 576; Conservative 29; Mismatches 41; Indels 1; Gaps 1;

QY 1 MRAPGAGASVSLALLWLGLPWTWSAAALGVYVGGWRFLRIVCKTARRDLFGLSV 60
 Db 1 mrappgagtasvaslallwflglpwtwsaaaafcvyvgggwrfirivcktarrrdlfglsv 60

QY 61 LIRVLELRRHORAGHTIPRIFOAVVQROPERLALVDAGTGCWTFQAOLDAYSNAVANLF 120
 Db 61 lirvlelrrhragdtipcfqavarrqperlalvdassgicwtfqaldtysnavanlf 120

QY 121 RQLGFAPGDVVAIFLEGRPEFVGLWLGLAKAGMEALNVLNRRERPLAFCLGTSAKALI 180
 Db 121 rqlgfapgdvavflegprpefvgllwglakagvvaallnvlrrerplafclgtsaakali 180

QY 181 FGGEMVAAVAESVSHLGSLLKFCSDGLGPEGILPDTHLLDPLLEKEASTAPLAQIPSKGM 240
 Db 181 yggemaaavaeseglgksllkfcsgdligpesilpdtqlldplmaeapttlaqapqkgm 240

QY 241 DDLRFYITSGTGLPKAAIVVHSRYRMAAFGHAYRMOAADVLYDCLPLYHSAGNIIG 300
 Db 241 ddrlfyitsgttglpkaaivvhsryriaafghhsymraadvlydclplyhsagnimg 300

QY 301 VGGCLYGLTVLVRKKFSARFDDCIKYNCTVVOYIGEICRYLLKQPVREARRHRVRL 360
 Db 301 vggcllygltvvlvrkkfsarfdwckvncvtdvddigeicryllrqpvrdveqhrvrl 360

QY 361 AVGNGLRPAIWEETFERFGVROIGEFYGATECNCISIANMDGKVGSCGFSNRILPHVPIR 420
 Db 361 avngnlrpaiweeftqrfvgvqigefygatecncsianmdgkvsgcgsfnriltphvpir 420

QY 421 LKVNEDTMELLRDAGGLICPCQAGEPGLLVQINQOPLRRFDGYVSESATSKIAHSV 480
 Db 421 lkvnedtmelrldseglcpcqgpegllvginqdprrfdgyvsdsatnkkiahsv 480

QY 481 FSKGDSAYLSGDLVMDLGYMYPRDRSGDTFRWRGENVSTTEVEGVLSRLGQTDVAVY 540
 Db 481 frkgdsaylsgdvlymdelgymyfrdrsgdtfrwrgenvstteveavlsrllgqtdvavy 540

QY 541 GVAVPVEGKAGMAAADPHSLDNPNAIYQELQKVLAPYARPTFLRLPQVDTGTGFKIQ 600

||||| 541 gvavpgvegkmaaaqhsqldpnsmygelkvlasypifrlpqvdtgtfkq 600
QY 601 KTRLOREGFDRPQTSDFRDLKQG-HYPLNEAVYTRICSGAFAL 646
Db 601 ktrlregfdrpqtstfrifdlksgtrypldervharicagdfsl 647

RESULT 15

AAB83252
ID AAB83252 standard; Protein; 630 AA.
XX
AC AAB83252;
XX
DT 06-JUL-2001 (first entry)
XX
DE Rat FATP1 SEQ ID NO: 59.
XX
KW Fatty acid transport protein; FATP; human; mouse; rat; rice blast fungus;
KW yeast; fat absorption; obesity; diabetes; heart disease; hyperlipidaemia;
KW weight control; tuberculosis; TB; anti-fungal.
XX
OS Rattus norvegicus.
XX
PN WO200121795-A2.
XX
PD 29-MAR-2001.
XX
PF 21-SEP-2000; 2000WO-US25891.
XX
PR 23-SEP-1999; 99US-0405504.
PR 23-SEP-1999; 99US-0405505.
PR 16-DEC-1999; 99US-0465280.
PR 17-FEB-2000; 2000US-0506252.
PR 06-JUL-2000; 2000US-0611197.
XX
PA (WHED) WHITEHEAD INST BIOMEDICAL RES.
PA (MILL-) MILLENNIUM PHARM INC.
XX
PI Stahl A, Hirsch DJ, Lodish HF, Gimeno RE, Tartaglia LA;
DR WPI: 2001-354783/37.
DR N-PSDB: AAF89024.
XX
PT New fatty acid transport proteins (FATPs) useful for the manufacture of
PT medicament for treating obesity, diabetes and heart disease -
XX
PS Disclosure; Fig 57; 287pp; English.
XX

XX The present invention provides the protein and coding sequences of fatty
CC acid transport proteins (FATPs) from a number of species, including
CC FATP1, FATP2, FATP3, FATP4, FATP5 and FATP6 from the human, FATP1-FATP5
CC from the mouse, FATP6 and b from C. elegans, and FATP from Aspergillus
CC nidulans, Drosophila, zebrafish, Magnaporthe grisea, Mycobacterium
CC tuberculosis and Cochliobolus heterostrophus. The FATP from M.
CC tuberculosis can be used to identify inhibitors which can then be used to
CC treat TB, that from M. grisea (also known as rice blast fungus) can be
CC used to develop anti-fungal agents capable of preventing infection of
CC rice. Those from the human can be used to develop treatments for
CC diabetes, heart disease, obesity, hyperlipidaemia and weight control. The
CC present sequence is one of the sequences described in the exemplification
CC of the invention.
XX
XX Sequence 630 AA;

Query Match 88.1%; Score 2970; DB 22; Length 630;
Best Local Similarity 87.2%; Pred. No. 2.6e-299;
Matches 563; Conservative 30; Mismatches 37; Indels 16; Gaps 1;
QY 1 MRAPGAGAAVSVLAILWLLGLPWTWSAAAALGVYVSGWRFLRVCKTARDFGLSV 60
Db 1 mrtpgagtasvaslgllwllglpwtwsaaafgvvygsggrwrlrvlrvcktarldfglsv 60

QY 61 LIRVLELRHRRHAGHTIPRIFQAVVQRPQERLALVDAGTGCWTFQAOLDAYSNVANLF 120
Db 61 Lirvrlelrhrhragdtiprifqavqrqperialvdassgicwtfaqldtysnavanlf 120
QY 121 RQLGFAPCDVVAIFLEGRPEFVGLWGLAKAGMEALLNVNLRREPLATFCLGTSGAKALI 180
Db 121 lqlgfapcdvvavflegrepefvglwglakagvvaalnvnlrreplafclgtsgaakali 180
QY 181 FGGEMVAAEVSGHLKSLIKFCSDGLPGLPOTHLDPDLKDLKASTAPLAQIPSKM 240
Db 181 yggemaaavaevseqlksllkfcsgdlpdesvlpdtqllldplmlaeapttlaqapqkm 240
QY 241 DDRLFYITSGTGLPKRAAIVVHSRYRMAAFGHAYRQAAADVLDCLPLVHSAAGNIIG 300
Db 241 ddrlyfytstgtglpkraaivvhsryriaafghhsyrmandvlydcplvhsagnig 300
QY 301 VGOCLLYGLTVVLRKKTASRFDWDDCIKYNCTVVQYIGETICRYLLKOPVREARRHRVRL 360
Db 301 vqqliygltvvllrkksasrfwddcvkynctvvyigeicryllrqprdvrrhrvrl 360
QY 361 AVGNGLRPAIWEETFERFVROIGEFYGATECNCSTANMDGKVGSCGFNSRILPHVYPIR 420
Db 361 avngnlrpaaweetfgrfgrqigefygatencncsianmdgkvsgcgsfnrliithvypir 420
QY 421 LVKVNEDTMELLRDAOGLCIPCOAGEPLLVGOINQODPLRRRFDGYYVSESATSKIAHSV 480
Db 421 lvkvnedtmeplrdsqglcipcqpgepllvvgqinqqdlrrfdgyvsdsatnkkiahsv 480
QY 481 FSKGDSAYLSGDVLMDELGYMYFRDRSGDTFRWRGENVSTTEVEGYLSRLLGQTDVAVY 540
Db 481 -----delgymyfrdrsgdtfrwrgenvstteveavlsrllgqtdvavy 524
QY 541 GVAVPGVEGKAGMAAVADPHSLDPNATYQELQVLAPYARPIFLRLLPQVDTGTGFKIQ 600
Db 525 gvavpgvegksgmaaiadphnqldpnsmygelkvlasyaqpfirllpqvdtgtgfkq 584
QY 601 KTRLOREGFDRPQTSDFRDLKQGHVYPLNEAVYTRICSGAFAL 646
Db 585 ktrlregfdrpqtstfrifdlkqgrypldervharicagdfsl 630

Search completed: March 6, 2002, 13:38:27
Job time: 208 sec
